



TECHNICAL GUIDANCE MATERIAL

for Issuance of The Certificate of Airworthiness for New Aircraft Only

SUBJECT: TECHNICAL GUIDANCE MATERIAL FOR ISSUANCE OF THE CERTIFICATE OF AIRWORTHINESS

EFFECTIVE DATE: 09 September 2021

APPLICABILITY

Issuance of the certificate of airworthiness under Part 21 requirements

PURPOSE

This TGM establishes procedures for accomplishing original airworthiness certification of aircraft. The procedures contained in this TGM apply to delegated to issue airworthiness certificates

REQUIREMENTS

South African Civil Aviation Regulations (SACAA) for Aircraft under Part 21.

1. REFERENCE:

- i. ICAO Annex 6 and Annex 8
- ii. Civil Aviation Regulations
- iii. Part 21 Subpart 1 of the South African Civil Aviation Regulations (CAR's), General

1. TERMS AND ABBREVIATIONS

1.1. Terms

TERM	DEFINITION
------	------------

Aeronautical product means any part or material that is, or is intended by its manufacturer to be a part of or used in an aircraft, unless excluded by the regulations

TERM	DEFINITION
Aircraft model	means a particular version of a type of aircraft, that is distinguished from another version of the same type by a change of sufficient effect on the weight, balance, structural strength, operational characteristics as would require a separate entry on a type certificate, identifying and approving the particular version as distinct from the identification and approval of other versions
Aircraft type	means a design and make of aircraft and refers to a group of essentially similar aircraft which, although possibly existing in different models, stem from a common basic design
Airworthy	means, that the aircraft is serviceable and meets all the requirements prescribed for the issuing of a certificate of airworthiness and such other requirements as have been prescribed for the continuing validity of such a certificate
Airworthiness directive	means a mandatory regulatory document which requires the registered operator to comply with the requirements to address an unsafe condition on an aircraft or aeronautical product
Certificate of airworthiness	means a standard certificate of airworthiness or a special certificate of airworthiness
Project Manager	primary spokesperson and coordinator for the CAA throughout the certification process
Registration holder of an aircraft	means the person whose name is entered in the South African Civil Aircraft Register as that of the aircraft's owner
Standard certificate of airworthiness	means a certificate of airworthiness issued for: an aircraft type certificated in the normal, utility, acrobatic, commuter, or transport category. 1) a manned free balloon; or 2) An aircraft in a special class of aircraft
State of design	means the State having jurisdiction over the organization responsible for the type design
Type acceptance certificate	means issued with a type certificate or type acceptance certificate

2. Abbreviations

ABBREVIATION	DESCRIPTION
--------------	-------------

ABBREVIATION	DESCRIPTION
AED	Airworthiness Engineering Department
AFM	Aircraft Flight Manual
AFMS	Aircraft Flight Manual Supplement
AW	Airworthiness
C of A	Certificate of Airworthiness
CAR	Civil Aviation Regulation
DCA	Director for Civil Aviation
PM	Project Manager
SACAA	South African Civil Aviation Authority
SACAR	South African Civil Aviation Regulation
SACATS	South African Civil Aviation Technical Standards
STC	Supplemental Type Certificate
TC	Type Certificate
TCDS	Type Certificate Data Sheet
AED	Airworthiness Engineering Department
AFM	Aircraft Flight Manual

3. GENERAL

A variety of airworthiness functions are performed by the SACAA. Many of these functions must be accomplished by or coordinated with CAA Airworthiness Engineering, Flight operations section and Airworthiness section that have expertise in the speciality. These may include the Type certification or Acceptance of the aircraft, modifications approvals, Aircraft maintenance manuals approvals and aircraft flight operations manual approvals. A number of airworthiness functions are accomplished by cross- utilization of the CAA Sections. Cross-utilization by the CAA must be employed whenever possible in accordance with the guidance contained in this section.

4. RESPONSIBILITIES OF THE PROJECT MANAGER:

- 4.1. Serve as the primary spokesperson for the CAA throughout the certification process.
- 4.2. Act in a professional and responsive manner.
- 4.3. Co-ordinate all certification matters with all other specialists assigned to the certification project.
- 4.4. Ensure that all certification job functions are completed.
- 4.5. Ensure that all correspondence to and from the applicant is co-ordinated through the Project Manager (PM).
- 4.6. Ensure that all parties involved are kept fully informed of the status of the certification.

5. RESPONSIBILITIES OF THE CERTIFICATION TEAM MEMBERS:

Responding to the requests for assistance made by the PM, The PM may ask certification team members to review maintenance manuals, conduct inspections, prepare written reports, and provide recommendations. Keeping the PM informed of the status of the certification.

6. DEVIATIONS

Adherence to the procedures in this TGM is necessary for uniform administration of this the C of A process. Any deviations from this guidance material must be coordinated and accepted by the Unit Manager. If a deviation becomes necessary, the inspector involved should ensure the deviations are substantiated, documented, and concurred with by the appropriate Manager.

CHAPTER 1 THE PRE-APPLICATION PHASE

1. Initial Enquiry

The sourcing of an aircraft involved in an initial issue standard C of A application process has a direct bearing on the expense, effort, time, and data provision requirements of the applicant.

1.1. The relevant variables are:

- 1.1.1. Whether the aircraft is based in South Africa prior to application, or whether it is being imported from another country.
- 1.1.2. Only new aircraft.
- 1.1.3. Whether the aircraft is a first-of-type (FOT) for the purpose of C of A application.
- 1.1.4. Whether the aircraft is bought or leased and the type of lease.
- 1.1.5. The modification status of the aircraft
- 1.1.6. Complexity for which certification is requested (Operating Category).

Therefore, CAA should be aware/critical when setting up time limits and resources for the certification process; however, the applicant should also be made aware that the CAA will not jeopardize safety

1.2. Issue of standard C of A to an individual aircraft involves:

- 1.2.1. Ensuring that the aircraft conforms with the definition of the design and its method of construction i.e. the aircraft conforms to the type design; this in turn ensures that the aircraft meets:
 - a) a design standard; and the specified airworthiness requirements.
- 1.2.2. Ensuring that the aircraft is free from manufacturing and post-production defects:
- 1.2.3. Ensuring compliance with all applicable airworthiness directives (ADs). For imported aircraft, applicable ADs will include all applicable ADs from the state of design of the aircraft type.
- 1.2.4. Ensuring that all required modifications, as dictated by design changes and applicable ADs, have been embodied.
- 1.2.5. Ensuring that the required operational equipment has been fitted; and
- 1.2.6. Ensuring that the aircraft's airworthiness state is properly reflected in the required documentation including that alterations have been carried out in accordance with approved data.

1.3. Factory delivery of new aircraft to RSA and the Certification thereof.

1.3.1. The following procedure has to be followed:

- a) Application for Registration should be submitted by the aircraft owner to the CAA Registration section who will satisfy themselves that all registration requirements have been met and issue a C of Ras per SA-CAR's Part 47.
- b) Application for a C of A should be submitted to the airworthiness section who will issue such Certificate valid for a period of 1 year or 30days pending on the non-conformities identified during inspection. If level one and level two findings are noted no certificate of airworthiness may be issued.
- c) The organisation (manufacturer's aircraft completion centre) shall provide all relevant documentations such as statement of conformity, export certificate and burn certificate.
- d) All inspection for the certificate of airworthiness for new aircraft will be conducted at the OEM facility.
- e) No desktop or third-party inspection will be allowed for certificate of airworthiness inspection

2. Pre-Application Meeting

The CAA Meet with the applicant to discuss the proposed application. Discuss with the applicant during the pre-application phase the following subjects, to include but not limited to:

- 2.1. Aircraft Import requirements.
- 2.2. The certification process and criteria that will be followed.
- 2.3. CAA inspection team
- 2.4. Anticipated completion period for the certification process.

- 2.5. The regulatory requirements applicable to the application.
 - f) Registration requirements for aircraft to be registered abroad.
 - g) Equipment's to be installed in the aircraft, for the kind of operation required.
 - h) Documents and forms to be submitted for approval.
 - i) Maintenance program to be followed for the maintenance of the aircraft.
 - j) If required specific maintenance to be performed on the aircraft prior to the issuance of the C of A
 - l) The requirement of preparing and keeping current status reports (life limited parts, ADs etc.).
 - m) Data relevant to the history of the aircraft that will be required.
 - n) fees involved as per SA CAR Part 187
 - o) Travel logistics for aircraft inspection to be conducted abroad.
 - p) The aircraft intended Lease arrangements and maintenance agreement (if applicable)
 - q) Only factory test flight will be required during the certification process
 - r) The requirement for opening South African Aircraft logbooks
 - s) Noise certificate and radio licence requirements
 - t) The applicant should be prepared to discuss in general terms various aspects of its proposed application.
 - u) Answer any questions the applicant may have about the Aircraft certification process.

Note: this process can either be done during the pre-application meeting or over the email

3. CAA Standard Information Package.

Ensure that the applicant understands what is expected and all applicable regulations. Provide the applicant with an Application Information Package to inform the applicant of what the formal application package must contain. Furnish the following documents to the applicant with instructions to complete and submit it to the CAA Office.

- 3.1. Technical guidance material
 - 3.1.1. RVSM, BRNAV, RNAV
 - 3.1.2. MCM (for aircraft to be operated under an AOC)
 - 3.1.3. AMS
 - 3.1.4. MEL (for aircraft to be operated under an AOC)
 - 3.1.5. Electrical load analysis
 - 3.1.6. Flight data recorder
- 3.2. Application forms
 - 3.2.1. C of A application form
 - 3.2.2. Noise certificate application form
- 3.3. Checklist as a guide on some of the questions they have to address during the demonstration inspection.
- 3.4. Applicable regulations
 - 3.4.1. Part 21 (C of A requirements)
 - 3.4.2. Part 43 read together with its technical standard (SACATS-43)
 - 3.4.3. Part 91 for equipment to be installed
- 3.5. Aeronautical Information Circulars
 - 3.5.1. AIC 13.2 Display of registration markings.
 - 3.5.2. AIC 18-55 Electrical load analysis.
 - 3.5.3. AIC 60.1 Technical information regarding aircraft, components, parts, etc, imported into South Africa
 - 3.5.4. AIC 60.3 Entries in logbooks
 - 3.5.5. AIC60.5 Mass and Balance
 - 3.5.6. AIC60.6 Requirements concerning placards and instrument markings when aircraft are imported
 - 3.5.7. AIC60.14 MCM
 - 3.5.8. AIC61-6 Modifications.

The CAA is to evaluate the complexity and size of the aircraft. This allows the establishment of the certification team to be based on the complexity of the certification. A Project Manager (PM) will be designated as the principal spokesperson for the CAA during the certification.

4. Additional Relevant Supporting Information

- 4.1. When applying for the certificate of airworthiness, the applicant must submit any additional relevant supporting information requested by the CAA Production/Manufacturing Inspector. This additional information is necessary to substantiate the approval of the client's application. The type and amount of supporting information will vary depending on the type of aircraft and operational category applied for. The Production/Manufacturing Inspector must determine the appropriate types of supporting information to be required. This should be limited to information used for determining the acceptability of the documentation.
- 4.2. An applicant should be directed to conduct a thorough review of the appropriate regulations and advisory material to provide guidance aircraft and documentation requirements. As a result of this review, the applicant must address, all the requirements as per the intended CAR Part of operation

5. Terminating the Pre-Application Phase.

The Pre-application phase ends when the certification team is satisfied that the applicant is prepared to proceed with formal application. If the applicant is not ready, the PM should advise the applicant of the problems and work with the applicant to arrive at solutions or terminate the certification process.

CHAPTER 2 -THE FORMAL APPLICATION PHASE

1. Conduct a Formal Application Meeting.

The applicant may schedule a meeting with the Certification team to submit their formal application. The purpose of this meeting is to formally submit the application package and to resolve any questions on the part of either party and to establish a common understanding and resolve all issues prior to proceedings with the application process. The meeting should reinforce open communication and working relationships. The PM is responsible for conducting the formal application meeting.

- 1.1. Any open questions concerning the package (such as omissions or deficiencies) must be answered before proceeding to the next phase. Any date conflicts must be resolved. This should be done in the most effective way possible, e.g., meetings and correspondence. Except for unanticipated circumstances, all certification team members and applicants' key personnel must be present, to avoid any unnecessary delays.
 - 1.1.1. The PM should encourage the applicant and the applicant's key personnel to present any questions they may have concerning the forthcoming certification process. The PM and the certification team members should answer and discuss freely all aspects of the certification process.
 - 1.1.2. The team will determine the package's acceptability based upon the results of the meeting but the PM may not formally accept the application during the meeting. The delay will allow time for the applicant to resolve any omissions, or any deficiencies discussed during the meeting.
 - 1.1.3. The applicant should be notified by letter stating whether the formal application is accepted or rejected. The Authority's acceptance of a formal application does not constitute approval or acceptance of individual attachments. These documents will be evaluated thoroughly during subsequent phases of the certification process. If, the formal application is not accepted, it will be returned with a written explanation of the reasons for its return.
 - 1.1.4. During the formal application meeting, the certification team and the applicant will review the application package and resolve any discrepancies.
- 1.2. If mutual agreements cannot be reached on any discrepancies, the certification team should terminate the meeting and inform the applicant that the application package is not acceptable. The application package must then be returned to the applicant with a letter explaining the reasons for the rejection.
- 1.3. When agreement has been reached on corrective action for deficiencies, the certification team should then encourage the applicant to present any questions concerning the upcoming certification. The certification team members should answer these questions fully.
- 1.4. Before the conclusion of the formal application meeting, the certification team must make certain the applicant clearly understands the following:
 - 1.4.1. The applicant will receive notification in writing in the event the application is rejected. This notification should be made within five working days after the formal application meeting. A telephone call concerning the application rejection shall be made to the applicant as soon as the determination is made, indicating that the written notification will follow and will include the reasons for the rejection.
 - 1.4.2. If the application is acceptable, the certification process continues with an in-depth examination of the application and associated documents during the "document compliance phase". In some cases, telephone confirmation is sufficient/ however, written confirmation is encouraged. A letter accepting the application is necessary because the time limit begins upon receipt of the application in an acceptable form.
 - 1.4.3. Acceptance of the formal application does not constitute acceptance or approval of any attached documents (AMS, MCM, etc.). They will be reviewed further, and the applicant will be expected to take

corrective action as required. Acceptance or approval of each attachment will be indicated separately at a later date during the certification process.

- 1.4.4. If the applicant is unable to meet the targets as proposed during the formal meeting, the Authority will need equivalent amounts of time, as agreed upon during the meeting, to make the necessary reviews and inspections. Consequently, the proposed inspection date could be delayed.
- 1.4.5. Rejection of an application is a sensitive issue, since the applicant will most likely have already expended funds and resources to this point. Therefore, it is important for the certification team to document thoroughly the reasons for the rejection. The reasons should clearly indicate that to proceed with the certification process would not be productive unless the applicant is willing to accept the certification team's corrective suggestions. Reasons for rejection might include lack of agreement on appropriate courses of action or evidence that the rejection, the application, and documents submitted are returned to the applicant with a letter of rejection.

2. Receipt of the Formal Application Package.

- 2.1. Ensure that all documents have been submitted and are completed.
- 2.2. The formal application package may be received by mail, or it may be hand delivered by the applicant through the formal application meeting. If it is hand delivered, the applicant should ensure that CAA sign acknowledge of receipt of the package.
- 2.3. The applicant will be informed that the CAA will need a brief time to perform a cursory review the package. Discussions of its acceptability should be avoided at this time. Persistent applicants should be informed that further discussions would not be productive until the certification team has reviewed the formal application.

3. Contents of the Formal Application Package

- 3.1. The formal application package may contain the following attachments.
 - 3.1.1. Certificate of registration in the RSA
 - 3.1.2. Completed C of A application form
 - 3.1.3. C of A Inspection fee.
 - 3.1.4. Copy of the previous C of A or Export C of A.
 - 3.1.5. Type certificate data sheet
 - 3.1.6. Noise certificate application form with the relevant attachments.
 - 3.1.7. Master Minimum Equipment List
 - 3.1.8. Aircraft operating flight manual
 - 3.1.9. Aircraft mass and balance
 - 3.1.10. Equipment list
 - 3.1.11. TCDS, STC and modification list
 - 3.1.12. Electrical load analysis
 - 3.1.13. Statement of conformity for the aircraft and engine/s
- 3.2. Upon receipt of a completed and signed Application forms and package, the CAA Office must accomplish the following:
 - 3.2.1. Assign sufficient CAA Inspectors to the certification team.
 - 3.2.2. Team members must strive at all times to maintain a professional and responsive relationship with the applicant. The team members handle all matters pertaining to the applicant, regardless of whom the applicant initially contacted.
 - 3.2.3. Assign one team member to be the Project Manager (PM). The PM will co-ordinate certification matters with the applicant but will also ensure that the CAA management personnel are kept fully informed of the project's current status.
- 3.3. The designated certification team member assigned as PM will process the application package as follows:
 - 3.3.1. Obtain the aircraft registration from the CAA registration division, in case of an aircraft to be registered abroad he / she shall liaise with registration department on registration requirements and request the reserved registration number together with undated and unsigned copies of the certificates of registration.

- 3.3.2. Check the C of A application form for the following,
- 3.3.3. Verify that the appropriate and current form is submitted.
- 3.3.4. Verify that the appropriate fee payment is made.
- 3.3.5. Verify that the application form is appropriately completed in full.
- 3.3.6. Check if the Information submitted on the form is correct.
- 3.3.7. In the office use section, tick the appropriate block whether the application form is accepted or not accepted.
- 3.3.8. The assigned Project Manager (PM) will contact the applicant if the application form is not accepted and the reasons for the rejection.
- 3.3.9. The PM will forward the application to the admin officer of Airworthiness for him / her to issue a project number.
- 3.3.10. Dependent on the size of the project team; The PM will convene a meeting with the Project team to assess the submitted package and assign tasks to the team as per the team expertise.

3.4. Evaluate the Formal Application Package.

- 3.4.1. Based on the initial review of the application package decision must be made whether or not to continue with the certification process.
- 3.4.2. Upon receipt of the formal application package, the certification team must initially review it and make a determination of its acceptability within reasonable time.
- 3.4.3. PM should communicate with the client in advance if a follow up meeting will be required after the receipt of the package. This is to ensure that the applicant's key personnel attend the meeting and for them to prepare any other information still outstanding from the package.
- 3.4.4. The initial review determines whether the submitted material represents a feasible proposal and is of sufficient quality to allow for a productive formal application meeting and to proceed with the certification process. Section JV below serves to provide direction and guidance for the initial review.

4. Package Acceptance.

- 4.1. If any of the items required for the formal application are missing or are incomplete, the application can be put on hold until required documentation is provided
- 4.2. The decision to proceed is predicated on receipt of all required documents in the formal application and an initial approval of the contents.
- 4.3. Normally, if an applicant has been thoroughly briefed and has acquired a good understanding of the requirements during the pre-application phase, the formal application should be of sufficient quality that any discrepancies, omissions, and/or "open" questions could be resolved during the formal application meeting.

Note: See Attachment A for an example of a rejection letter for the formal application.

5. Terminating the Formal Application Phase.

If the certification team accepts the application package, the Formal Application Phase of the certification process is terminated, and the Document Compliance Phase begins. acceptance.

CHAPTER 3 • THE DOCUMENT EVALUATION PHASE

1. General.

- 1.1. The document evaluation phase is that part of the certification process where the applicant's manuals and other documents are carefully reviewed and either approved or rejected.
- 1.2. An important responsibility of the PM is to organise the certification team's efforts to promptly review the applicant's submittals and other documents. The previously agreed upon schedule of events will determine the priority of items to be reviewed and any additional inspector support or other CAA resources that will be needed beyond the composition of the basic certification team. The document compliance phase is an intensive process and will most likely require additional resources to accomplish necessary tasks in a timely manner.
- 1.3. During this phase, members of the certification team evaluate and approve or accept the applicant's manuals and any other required documents. Review of the applicant's submissions should be accomplished by simultaneous references to the South African Civil Aviation Regulations (CARs), the maintenance program, guidance materials, AICs, manufactures or vendor source documents and the appropriate manual or document. The formal application package and attachments is performed in-depth to ensure compliance with applicable regulations and conformity to safe operating practices. The documents to be reviewed include:
 - 1.3.1. C of A application form.
 - 1.3.2. Prescribed fee and project number.
 - 1.3.3. Statement of conformity
 - 1.3.4. Confirmation South African Civil Aviation Authority type acceptance certificate;
 - 1.3.5. Mass and Balance Data and certified Equipment List.
 - 1.3.6. Statement by the manufacturer indicating that all applicable mandatory airworthiness directives and services bulletin have been complied.
 - 1.3.7. Flight and/or Owner's Manual, as applicable.
 - 1.3.8. List of STCs and modifications embodied on the aircraft
 - 1.3.9. OEM flight test record.
 - 1.3.10. C of R;
 - 1.3.11. Flight folio
 - 1.3.12. An export C of A if applicable.
 - 1.3.13. Radio station license or proof of payment with ICASA.
 - 1.3.14. Confirmation of de-registration or non-registration.
 - 1.3.15. Components record history and status report life limited components.
 - 1.3.16. South African Aviation Authority Noise Certificate.
 - 1.3.17. Modification status, if any.
 - 1.3.18. Electrical load analysis.
 - 1.3.19. Status report of Flight Data Recording System (graph format)
 - 1.3.20. AD and service bulletin status report

2. Documents to be Reviewed for Approval or Acceptance

- 2.1. Aircraft Registration. The procedures for aircraft registration and issuance of registration numbers are contained in Part 47, Aircraft Registration. The registration of aircraft is not a function of airworthiness certification; however, RSA registration is a prerequisite for issuance of an airworthiness certificate. The PM must ensure that an aircraft presented for airworthiness certification is properly registered.
- 2.2. Application for the Certificate of Airworthiness
- 2.3. The form should provide the following information:
 - 2.3.1. The applicant should mark the appropriate block to indicate the kind of certification applying for.
 - 2.3.2. Aircraft registration- the South African Registration nationality designator letters "ZS or ZT-"followed by the registration marks as shown on the aircraft registration certificate or as per the reserved registration.

- 2.3.3. Date when aircraft will be ready and available for the inspection
- 2.3.4. Place where the Aircraft will be located during the inspection.
- 2.3.5. Aircraft Manufacture Name (Make) - the name of the manufacturer or builder as it appears on the aircraft identification (ID) plate.
- 2.3.6. Aircraft Model Designation • the model designation as shown on the aircraft ID plate. Note Trade names should not be used.
- 2.3.7. Aircraft Serial Number- the serial number as shown on the aircraft ID plate.
- 2.3.8. Type cert Number- type certificate number as shown on the aircraft ID plate.
- 2.3.9. Year of Manufacture • the year of manufacture if shown on the aircraft ID plate or as reflected in the aircraft's records.
- 2.3.10. State of manufacture - the name of the country that has jurisdiction over the organization responsible for the final assembly of the aircraft.
- 2.3.11. Maximum Certificated Mass / Maximum Take-off Mass • enter the maximum permissible mass shown in the aircraft flight manual or type cert or other document associated with the certificate of airworthiness at which an aircraft may commence its take-off under standard atmospheric conditions at sea level;
- 2.3.12. Engine Manufacture Name (Make) - The engine make is the name of the manufacturer as it appears on the Aircraft TCDS or STC and engine ID plate. When engines are not installed, as in the case of a glider or balloon, enter "not applicable" or "N/A."
- 2.3.13. Engine Model Designation. When engine(s) are installed, enter the complete designation as shown on the Aircraft TCDS or STC and engine (for example, "O-320-A1B," "PT6A-20A," "CFM-56-3C-1," etc.).
- 2.3.14. The applicant should Mark the appropriate block to specify whether engines are new, used, or remanufactured.
- 2.3.15. Engine Serial Number- the serial number as shown on the engine JD plate.
- 2.3.16. Date - date when engines were certified as new or remanufactured or overhaul.
- 2.3.17. Propeller manufacture Name (Make) - the name of the manufacturer as shown on the Aircraft TCDS or STC and propeller identification marking. "not applicable" or "N/A" if propellers are not installed.
- 2.3.18. Propeller Model Designation - When applicable, enter the model designation as shown on the Aircraft TCDS or STC propeller identification marking.
- 2.3.19. The applicant should mark the appropriate block to specify whether Propellers are new, used, or remanufactured.
- 2.3.20. Propellers Serial Numbers - the serial number as shown on the Propellers ID plate.
- 2.3.21. Date - date when propellers were certified as new or remanufactured or overhaul.
- 2.3.22. Supporting documentation • documents that are to be submitted during the formal application phase. The applicant should mark the applicable section and specify where not applicable. CAA will notify the client if there are any other additional documents that the client may need to submit for the formal application phase.
- 2.3.23. Experimental- An experimental certificate for an aircraft may be issued for the purposes of Showing compliance with the regulations with specific reference to the conducting of flight tests and other operations to show compliance with the airworthiness regulations including -
 - a) flights to show compliance for issuance of type certificate or
 - b) supplemental type certificate.
 - c) flights to substantiate major design changes; and
 - d) flights to show compliance with the function and reliability requirements of the regulations; or
 - e) Declaration- by the applicant, owner or agent that the information provided on the form is correct. this section will include the signature of the person making application, his/her name and the date when the application is made

2.4. Application for the Noise certificate:

- 2.4.1. An application for the issuing of a noise certificate shall be made to the Director in the appropriate form CA36-02 and Be accompanied by -
 - a) the appropriate fee as prescribed in Part 187; and
 - b) Proof that the aircraft concerned complies with the noise standards referred to in regulation 36.00.2

The DCA may recognise a Noise certificate, or an equivalent document issued by an appropriate Authority, if the standards under which the noise certificate or equivalent document was issued by the appropriate Authority, are not less stringent than the standards as prescribed in Document SACATS.

Note: The approval process of Noise Certificates is done at certification department.

2.5. Minimum equipment list (MEL)

The applicant of a commercial C of A shall submit a copy of the aircraft MEL as part of the C of A certification packaged. The requirements for MEL are contained in SA CAR Part 121. and SA CAR Part 135. MEL technical guidance material has guidance on information required to develop a MEL.

2.6. RVSM Application (where applicable)

- 2.6.1. For aircraft, that are to be operated within airspace where Reduced Vertical Separation Minima (RVSM) applies, an airworthiness approval certificate is required.
- 2.6.2. The requirements for such RVSM airworthiness approval certificate are contained in SACATS-9.1
- 2.6.3. RVSM technical guidance material contains additional requirements for obtaining RVSM approval. The applicant shall submit as part of the certification package the following information:
 - a) A completed form;
 - b) The appropriate fee as prescribed in Part 187 and;
 - c) The substantiation data to prove that the aircraft does comply with the RVSM requirements.

2.7. Aircraft operating flight manual

The applicant shall submit a copy of the aircraft current flight manual with all the AFM supplements applicable to the aircraft for acceptance by the DCA as part of the certification package.

For initial C of A issuance, the fee for the approval of such manual shall be included in the C of A application fee.

2.8. Mass, and balance report

The applicant shall establish the mass and the centre of gravity of the aircraft by actual weighing prior to initial entry into operation. The accumulated effects of modifications and repairs on the mass and balance of the aircraft shall be accounted for and properly documented by the owner or operator. The mass and centre of gravity data, as supplied by the manufacturer in respect of a new aircraft, shall be acceptable for the issuance of a C of A.

The procedure to establish mass and the form on which the results of balance computations must be recorded is prescribed in the Document SACATS. Mass and balance technical guidance material read together with AIC 60.5 provides additional guidance on establishing the Mass and Balance of an aircraft. The applicant shall submit a copy of the mass and balance report for acceptance by the CAA. The acceptance fee of such mass and balance report shall be included in the C of A application fee.

2.9. Equipment list

The OEM shall submit an up-to-date certified equipment list copy of the aircraft concerned.

2.10. Supplementary Type Certificate or modification list

The applicant shall submit a copy of all the modifications including STCs that are embodied on the aircraft. All modifications embodied in the aircraft shall meet the requirements of CAR- Part 43 read together with AIC61.6. In an instance where there are modifications that were previously embodied in the aircraft, the applicant shall submit the approvals of such modifications.

Should there be modifications including changes to equipment or the installation thereof, which affect, or are likely to affect, the serviceability of the aircraft, or the safety of its occupants or of any other persons or property, that the applicant wishes to embody in the aircraft; an application of such embodiment shall be made to the DCA in the appropriate SACAA form. The application form shall be accompanied by the appropriate fee as prescribed in Part 187. The applicant shall also furnish the DCA with information, data, calculations, reports on tests, drawings or wiring diagrams relating to the design, and proof of effectiveness or airworthiness of such modification, as the Director may require.

The requirements listed above do not include the modifications as may from time to time be recommended by the manufacturer of the type of aircraft or equipment concerned in a form of Airworthiness directives or service bulletins.

2.11. Electrical Load Analysis (ELA)

The applicant shall submit the current copy of the aircraft ELA, as part of the aircraft certification package. The applicant shall ensure that the ELA contains the record of all changes that were made to the connected loads, which may be added or removed by modification or changes in operational procedures. The ELA that is produced for Aircraft Type Certification is the baseline document for any subsequent changes. If possible, the basic format for the ELA should be maintained to ensure consistency in the methodology and approach.

In some cases, the original ELA may be lacking in certain information, for instance, 'Time available on emergency battery', and as such, it may be necessary to update the ELA using the guidance material contained in the ELA technical guidance material. The acceptance fee of such ELA shall be included in the C of A application fee.

2.12. Modes

The applicant shall submit an application for MODE S transponder code SACAA Form, together with the appropriate fees as prescribed in the regulation.

3. Document Any Deficiencies (Unacceptable Documents).

3.1. If deficiencies are found in any manual or document, return it to the applicant with a letter outlining the deficient areas. Inform the applicant that the certification process will not continue until all deficiencies are resolved. If appropriate, meet with the applicant to review deficiencies in detail. The Certification Team should be ready to offer suggestions on how to improve the product **but avoid "writing" the applicant's manual**. The Certification team should remember that it is the applicant's responsibility to develop manuals and procedures that ensure safe operating practices and compliance with the regulations.

***Note:** The applicant and the certification team should address the appropriate means of identifying the corrective actions (revisions) to manuals and documents. If manuals and documents have been revised without a means to identify what changes have been accomplished then the inspector should review the entire manual or document as this will increase the time spent reviewing, which in turn would be costly to the applicant.*

3.2. Corrective action must be taken, and the Certification Team notified in writing by the application order for the certification process to continue. Each deficiency and corrective action must be fully documented and recorded in the certification file.

4. Terminating the Document Evaluation Phase.

Once all required documents are approved or accepted, the Document Compliance Phase ends. The certification process continues in the Demonstration and Inspection Phase. Although the Document Compliance Phase and the Demonstration and Inspection Phase are dealt with as distinct, separate phases, the two may overlap or occasionally coincide.

CHAPTER 4 • DEMONSTRATION AND INSPECTION PHASE

1. GENERAL

- 1.1. In this phase the certification team determines the applicant's compliance with the regulations, proposed aircraft manual procedures and safe operating practices. The certification team inspects the aircraft history documentation, components traceability documentation, aircraft installed equipment, aircraft compliance to the category applied for, aircraft compliance to the maintenance program, maintenance history, aircraft condition and worthiness. As previously mentioned, certain segments of the document evaluation phase often occur simultaneously with certain events in the demonstration and inspection phase.
- 1.2. An applicant for the issuing of any certificate, approval or authorisation in terms of Part 21 of the regulations, shall permit an airworthiness inspector to carry out such safety inspections and flight and ground tests which may be necessary to verify the validity of any application made in terms of the regulations.
- 1.3. The certification team shall use the following information as a guide on evaluating compliance checklists, technical information produced by the manufacturers of the airframe, engine, propeller, and installed equipment, and any other additional information issued by the DCA.
- 1.4. Through observation, monitoring, and other forms of on-site evaluation, the certification team will be exposed to many types of activities.
 - 1.4.1. Regulatory Compliance. During the evaluation, the certification team shall determine the applicant's ability to comply with all applicable sections of the regulations and the approved maintenance manuals.
 - 1.4.2. Determination of Approval or Disapproval. Throughout the demonstration and inspection phase, the team will ensure that all aspects of the applicant's required demonstrations are observed and that a determination of approval or disapproval for each is made.
 - 1.4.3. Handling Deficiencies. If, at the time, certain items or the applicant's conduct of activities prove to be deficient, appropriate corrective action must be taken. If necessary, the certification team shall advise the applicant of the impracticality of continuing the certification process due to the extent of the deficiencies.

2. Prerequisites and Co-Ordination Requirements

- 2.1. Co-ordinate and schedule an inspection and demonstrations. Co-ordination is required between the, certification team members, and the applicant.
- 2.2. Request Demonstrations. The certification team should develop the type of demonstration required prior to arriving at the applicant's facility but this is not mandatory. It is acceptable to request demonstrations during the inspection as long as the inspector understands the objective(s) and final outcome of the demonstration. The demonstration must be properly documented by the inspector(s) and is part of the certification file.

3. Associated Documents

- 3.1. During the manufacturing of aircraft, the applicant shall ensure that due regard is given to -
 - 3.1.1. The contents, recommendations or requirements of the relevant manuals, TC, STCs, IPCs, ADs, SBs or other similar technical information produced by the manufacturers of the airframe, engine, propeller and installed equipment; and
 - 3.1.2. Additional requirements issued by the Director, including those contained in Aeronautical Information Circulars and in any publications, issued by the State of manufacture or State of type design of the aircraft, which may prescribe or amplify techniques to be followed in the maintenance of aircraft.

3.1.3. In the event of any conflict between the requirements or instructions issued by a manufacturer and those by the Director, the provisions of the latter shall prevail.

3.2. The applicant shall ensure that the following documents are available and up to date, the list:

- 3.2.1. Radio station license or proof of payment
- 3.2.2. Repairs and dent and buckle report together with the mapping
- 3.2.3. Aircraft status report (AD's, SB's, life limited components)
- 3.2.4. Aircraft logbooks (airframe, engines, propellers and APU's where applicable)
- 3.2.5. Aircraft Flight folio
- 3.2.6. List of visual signals for intercepted aircraft
- 3.2.7. Performance Flight Test, certification in airframe logbook if aircraft is safe for flight together with the permission from owner to conduct the test flight
- 3.2.8. Maintenance check last carried out on the aircraft if applicable
- 3.2.9. Damage history
- 3.2.10. Cabin interior documents with burn test certificates
- 3.2.11. Avionics test carried out (ELT, Compass swing, altimeter FDR etc.)
- 3.2.12. Aircraft history records

3.3. Flight Testing.

The CAA will require OEM flight tests report to determine that the aircraft is in a condition for safe operation. The CAA must confirm that the aircraft has been flight tested by the OEM pilot in accordance with that procedure.

Certified safe for the intended flight in the airframe logbook. The appropriate airworthiness certificate for this purpose is a special airworthiness certificate, for showing compliance with Part 21 requirements

4. Perform Aircraft Inspection.

During the demonstration and inspection phase, the certification team shall inspect the aircraft using guidelines provided on the appropriate aircraft inspection checklist listed. The team ensure that the aircraft meets the requirements of the aircraft type certificate data sheet, STCs or repairs have been carried out in accordance to approved data and any other relevant information. Verify that the aircraft is in a condition safe for the intended operation.

It is therefore incumbent on the applicant to make the aircraft available at a time and place mutually agreed to between the certification team and the applicant.

The physical inspection involves the completion of detailed checklists and encompasses but not limited to the following.

- 4.1. Inspection of structure (airframe), systems and engines, to the extent considered necessary to verify the aircraft is in a safe condition for flight, and to correlate physical aspects with the aircraft's documentation. The inspector will arrange provision of inspecting aids and checklists, but the applicant will be responsible for providing internal access to structure and systems if this is beyond the inspector's scope using his or her limited resources.
- 4.2. Ensuring the correct registration markings and call sign.
- 4.3. Ensuring the correct manufacturer's aircraft data plate and fireproof data plate are displayed.
- 4.4. Correlation of manufacturer's aircraft data plate details with documentation.
- 4.5. Ensuring all markings and placards as called up by the AFM, Maintenance Manual and/or ADs are correctly positioned, formatted and legible.
- 4.6. Ensuring the all-emergency equipment is correctly installed.
- 4.7. Determining if operational equipment as required by the aircraft's intended role e.g., instrumentation, communication and navigation equipment, oxygen provisions, survival equipment etc. is correctly installed.
- 4.8. Verify/check that there are no evident corrosion, cracks and dents that haven't been accounted for.
- 4.9. All lights including emergency exit lights are operational.

5. CAA Inspection Package

The applicant shall prepare copies and compile a package for the CAA aircraft file. During the inspection, the certification team shall inform the applicant on the copies they require as this will differ from aircraft to aircraft.

6. Debrief the Applicant

- 6.1. Debrief the applicant as part of the inspection.
- 6.2. Include both acceptable and unacceptable areas.
- 6.3. Be clear when indicating any area that must be corrected.
- 6.4. Advise the applicant that a formal letter containing a list of discrepancies will be sent.
- 6.5. Advise the applicant on what is expected from his part should there be findings identified.

7. Notification of Discrepancies

- 7.1. Inform the applicant in writing of the discrepancies.
- 7.2. unacceptable procedure, policy, instruction, or method and explain how it is inconsistent with the appropriate regulation.
- 7.3. Inform the applicant that the certification approval cannot be granted until the discrepancy is resolved.
- 7.4. Notify the PM.
- 7.5. File Documentation.

8. If no Discrepancies Are Found:

- 8.1. Inform the applicant of the satisfactory results both during the debrief and in writing confirming the satisfactory results of the demonstration phase and issue the certificate of airworthiness.
- 8.2. Complete required documentation.
- 8.3. Notify the PM.
- 8.4. File documentation.

9. Unsatisfactory Demonstration.

If a particular demonstration of compliance is unsatisfactory, the certification team must discuss with the applicant how to correct the problem. The certification team may want to follow up with a letter indicating the nature of the findings and its corrective action. Deficiencies will have to be corrected within 14 days, before the process can continue.

Depending on the nature and severity of the findings the certification team may opt to carry out a follow up inspection to verify proper closure of the findings. Should the applicant fail to address the identified findings within the identified period, the inspection carried out will be terminated and the applicant shall apply for a re-inspection, and he/she shall be held liable for the costs of such inspection.

10. Satisfactory Demonstration.

If the applicant's demonstrations and inspections are successful, the certification team will record on appropriate documents and ensure that the documents are part of the certification file.

1. CERTIFICATION PHASE

The acceptance letters, approvals, and certificates are issued to the applicant after the satisfactory completion of the demonstration phase and after all significant unsatisfactory items have been corrected. This action completes the certification process. The applicant shall not be certificated under any circumstance until the Project Manager (PM) has determined that the applicant is fully capable of fulfilling its responsibilities and that the aircraft complies with the South African Civil Aviation Regulations (SACARs) in an appropriate manner.

2. CAA Internal Process and Preparation of the Certificates

- 2.1. After the successful completion of the demonstration phase the PM shall compile the package and may present it to the review board if findings were noted, which shall review the package for completeness and should there be documents or information that the board will require over and above what the PM will present, the PM shall notify the applicant and request that they submit such info.
- 2.2. If there are no non-conformance found during the inspection a 12-month certificate of airworthiness may be issued however if there is level 3 non-compliance noted a 30 days certificate of airworthiness may be issued in conjunction to that the file may be submitted to CSD for review.
- 2.3. No certificate of airworthiness shall be issued if a level 1 or 2 finding is noted during the inspection.
- 2.4. The client is to be allowed 30 days to rectify any non-conformances or discrepancies that were identified during the inspection. Aircraft not rectified within that period will be subjected to a full re-inspection at an hourly rate. Refer to CAR Part 187.
- 2.5. The PM shall inform the applicant and advise the applicant on what needs to be addressed before they can obtain final certification.
- 2.6. The following information must be imprinted or typed on the appropriate form when the certificate is prepared for issuance:
 - 2.6.1. The aircraft registration.
 - 2.6.2. The aircraft manufacture
 - 2.6.3. The aircraft serial number
 - 2.6.4. operational Category
 - 2.6.5. expiry date
 - 2.6.6. Limitations and restriction if applicable.
 - 2.6.7. The Assigned Certificate Number.
 - 2.6.8. The Effective Date of the Certificate. The date to be entered in the space provided shall be the date of issuance. If a certificate is to be changed due to an address change or a change of the certificate holding office; the date of original issuance shall be retained on the changed certificate. An amendment of the certificate operational category or limitation or restriction change in the certification has the effect of a new certification; the applicant shall apply for such amendment and an amendment inspection shall be conducted separately therefore, a new certificate and certificate number shall be issued. For this situation the issuance date of the new certificate will be entered in the space provided.
 - 2.6.9. The Signature space Certificates issued to the aircraft complying with SACAR Parts, shall be signed by the appropriate CAA delegates.
 - 2.6.10. The Signature, Title, space. The full title of the person signing the certificate shall be entered in the space provided.

3. Issuance of Certificates and Completing the Certification Process.

- 3.1. When it is determined that the applicant has met all regulatory requirements, the appropriate certificate and specific operating provisions will be presented to the applicant. The package may contain the following.
 - 3.1.1. The Certificates

- 3.1.2. Clients approved manuals
- 3.1.3. Authorisations, which the client might have applied for.
- 3.1.4. Any other substantiating data which the client might have submitted as part of the substantiating information.

3.2. Before issuance, the applicant will sign the acknowledgment of receipt of such documents. The original certificates will then be given to the new certificate holder.

4. Certification Report

When the new aircraft is certificated, the PM is responsible for assembling a certification report. This report must be signed by the PM and will include the name and title of each team member who assisted in the certification project.


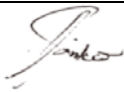

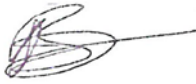
5. Certification Package Retention.

The CAA shall retain the certification package in the aircraft file as long as the aircraft remains active in the aircraft register.

6. Responsibility of the Owner or Operator

The owner or operator is responsible for continued compliance with CAA regulations, authorisations, limitations, and provisions of its Certificate.

7. DOCUMENT AUTHORISATION

DEVELOPED BY:		
	MESHACK JABULANE NGCONGWANE	09 SEPTEMBER 2021
SIGNATURE OF INSPECTOR	NAME IN BLOCK LETTERS	DATE
REVIEWED BY:		
	JABULILE SIBEKO	09 SEPTEMBER 2021
SIGNATURE OF M: AED	NAME IN BLOCK LETTERS	DATE
VALIDATED BY:		
	LOBANG THABANTSO	09 SEPTEMBER 2021
SIGNATURE OF SM: AW	NAME IN BLOCK LETTERS	DATE
APPROVED BY:		
	SIMON SEGWABE	09 SEPTEMBER 2021
SIGNATURE OF E: ASO	NAME IN BLOCK LETTERS	DATE